IN THE CLAIMS:

1. (Currently Amended) A contact inspection method for inspecting vibration conditions of a recording and reproduction device, the device comprising:

a magnetic disk ~~(1)~~;

a slider ~~(2)~~ having a head for recording data to or reproducing data from the magnetic disk ~~(1)~~; and

a suspension ~~(4)~~ mechanically connecting the slider and a slider-holding mechanism;

wherein a first detection element ~~(12)~~ for detecting vibrations is attached to the magnetic disk, and

a second detection element ~~(12b)~~ for detecting vibrations is attached to one of the slider, the suspension, and the slider-holding mechanism;

the method comprising, when the slider is removed from the magnetic disk:

detecting a ~~detection output from~~ vibration with the second detection element when the slider is separated from the magnetic disk ~~only~~;

detecting a ~~detection output from at least~~ vibration with the first detection element when the slider and the magnetic disk come into contact with each other;

determining whether a contact mode when the vibration is detected by the first detection element is a first contact mode in which the slider contacts the magnetic disk by a squeeze force generated by an effect of air between the slider and the magnetic disk, or a second contact mode in which the slider contacts the magnetic disk due to a spring vibration after the slider is separated from the magnetic disk, based on a time difference

between a detection output from the first detection element and a detection output from the second detection element ~~a peak of each detection output, the peak being a maximum value of the detection output;~~

~~determining a first time when the peak of the detection output from the second detection element only is detected;~~

~~determining whether the peak of the detection output from the second detection element is detected before or after the first time; and~~

~~determining a type of contact between the slider (2) and the magnetic disk (1).~~

2. (Currently Amended) The contact inspection method according to claim 1, wherein effective values of the detection outputs from the first detection element ~~(12)~~ and the second detection element ~~(12b)~~ are calculated based on the detection outputs from the first detection element and the second detection element ~~the respective detection elements~~, and the ~~type of~~ contact mode is determined based on the calculated effective values of the detection outputs.

3. (Currently Amended) The contact inspection method according to claim 1, wherein envelopes of the detection outputs from the first detection element ~~(12)~~ and the second detection element ~~(12b)~~ are calculated based on the detection outputs from the ~~respective detection elements~~ first detection element and the second detection element, and the ~~type of~~ contact mode is determined based on the calculated envelopes of the detection outputs.

4. (Currently Amended) The contact inspection method according to claim 1, wherein the

detection output from the first detection element ~~(12)~~ is connected to a rotary transformer ~~(33h)~~ fixed to the magnetic disk ~~(1)~~, and the rotary transformer ~~(33h)~~ has an input impedance which is higher than ~~the~~ an impedance of the first detection element in at least a portion of an effective sensitivity band in which the first detection element has a sensitivity not lower than 1/10 of a maximum sensitivity of the first detection element.

5. (Currently Amended) The contact inspection method according to claim 4, wherein when the impedance of the first detection element ~~(12)~~ is Z1 and the input impedance of the rotary transformer ~~(33h)~~ is Z2, and ~~an~~ the effective sensitivity band reaches a lower limit frequency when Z2>0.5.times.Z1.

6. (Currently Amended) The contact inspection method according to claim 4, wherein when the impedance of the first detection element ~~(12)~~ is Z1 and the input impedance of the rotary transformer ~~(33h)~~ is Z2, the first detection element operates at a frequency providing the maximum sensitivity when Z2>Z1.

7. (Currently Amended) The contact inspection method according to claim 4, wherein an electrical circuit including the first detection element ~~(12)~~ and a rotor-side coil ~~(33g)~~ of the rotary transformer ~~(33h)~~ has a resonance frequency within the effective sensitivity band of the first detection element.

8. (Currently Amended) The contact inspection method according to claim 4, wherein the first

detection element ~~(12)~~ is a piezoelectric element, and

an electrical circuit including the first detection element ~~(12)~~ and a rotor-side coil ~~(33g)~~ of the rotary transformer ~~(33h)~~ has a resonance frequency within a range in the effective sensitivity band in which the first detection element has a sensitivity not less than 1/10 of [[a]] the maximum sensitivity of the first detection element.

9. (Currently Amended) A contact inspection device comprising:

a rotating magnetic disk ~~(1)~~;

~~a first detection element attached to the magnetic disk for detecting vibrations of the magnetic disk;~~

a slider ~~(2)~~ having a head for recording data to and reproducing data from the magnetic disk;

a slider-holding mechanism;

a suspension ~~(4)~~ connecting the slider to the slider-holding mechanism;

a first detection element for detecting vibrations of the magnetic disk, the first detection element being attached to the magnetic disk;

a second detection element ~~(12b)~~ for detecting vibrations caused when the slider is removed from the magnetic disk, the second detection element being attached to one of the slider ~~(2)~~, the suspension ~~(4)~~ and the slider holding mechanism; and

a measurement device for determining whether a contact mode when the vibration is detected by the first detection element is a first contact mode in which the slider contacts the magnetic disk by a squeeze force generated by an effect of air between the slider and the

magnetic disk, or a second contact mode in which the slider contacts the magnetic disk due to a spring vibration after the slider is unloaded from the magnetic disk, based on a time difference between a detection output from the first detection element and a detection output from the second detection element ~~a maximum value of an output from the first detection element (12) is detected before or after a maximum value of an output from the second detection element (12b), thereby determining a vibration type due to contact between the slider (2) and the magnetic disk (1) out from a plurality of vibration types~~.

10. (Cancelled)

11. (Withdrawn) A contact inspection device comprising: a magnetic disk (1) fixed on a rotary holding mechanism (3) and rotated; a slider (2) having a head for performing at least one of recording and reproduction on and from the magnetic disk (1); and a detection element (12) attached to the rotary holding mechanism (3) and detecting vibration of the magnetic disk (1); the contact inspection device inspecting vibration conditions of the magnetic disk (1), based on detection output from the detection element (12), wherein the rotary holding mechanism (3) has a magnetic disk fixing portion constituted by an AE transmission flat plate (11) parallel to the magnetic disk (1) surface, and the detection element (12) is fixed on a surface of the AE transmission flat plate (11) opposite from the magnetic disk contact surface.

12. (Withdrawn) The contact inspection device according to claim 11, wherein the detection output from the magnetic-disk-side detection element (12) is connected to a rotary transformer

(33h) fixed to the magnetic disk (1), and the rotary transformer (33h) has an input impedance which is higher than the impedance of the detection element (12) in at least a portion of an effective sensitivity band in which the detection element has a sensitivity not less than 1/10 of its maximum sensitivity.

13. (Withdrawn) The contact inspection device according to claim 11, wherein the AE transmission flat plate (11) and the magnetic disk (1) are maintained in pressure contact with each other by a device for fixing the magnetic disk (1) to the rotary holding mechanism (3).

14. (Withdrawn) The contact inspection device according to claim 11, wherein the magnetic disk contact surface of the AE transmission flat plate (11) has a surface roughness that is substantially the same as that of the surface of the magnetic disk.

15. (Withdrawn) The contact inspection device according to claim 11, wherein the surface roughness of the magnetic disk contact surface of the AE transmission flat plate (11) has a surface roughness of which average roughness is not more than 5 nm.

16. (Withdrawn) The contact inspection device according to claim 11, wherein a fluid film is applied at least to the magnetic disk contact surface of the AE transmission flat plate (11).

17. (Withdrawn) The contact inspection device according to claim 16, wherein the fluid film has a thickness that is larger than the surface roughness of the magnetic disk contact surface.

18. (Withdrawn) The contact inspection device according to claim 11, wherein a same lubricant is applied to the magnetic disk surface and the magnetic disk contact surface of the AE transmission flat plate (11).